Chronomatic-274 (120-1582) Features Faxback Doc. # 3799

The Chronomatic-274 AM/FM LED Alarm Clock Radio provides these special features:

Green LED Digital Display-Makes the clock easy to read.

Battery Backup - Keeps the clock and alarm running for up to eight hours if powered is interrupted.

Battery Sentinel - Lets you know when it is time to replace the back-up battery.

Push-Button Operation - Makes the clock radio easy to use.

Sleep Timer - Plays the radio for up to an hour and 59 minutes before it automatically shuts off.

Snooze Feature - Silences the alarm and sets it to sound again in about 9 minutes so you can get a few extra minutes of sleep.

Earphone Jack - Allows private listening through an optional earphone.

CONNECTING TO AC POWER

Plug the clock radio's power cord into a standard AC outlet. The display flashes.

INSTALLING THE BACK-UP BATTERY

To keep the clock running during an AC power failure, install a 9-volt battery. We recommend Radio Shack's Enercell Extra Life battery (Cat. No. 23-583) for best performance.

Notes: To prevent unnecessary drain on the back-up battery, install the battery after you plug in the AC power cord.

The clock display does not light while operating from battery back-up power, but the clock and alarm are operational for up to 8 hours.

A prolonged power failure can drain the battery. If the display flashes after an AC power failure, the battery is too low to run the clock. Replace the battery and reset the clock.

Replace the battery when the BATTERY SENTINEL indicator lights.

Follow these steps to install the back-up battery.

1. Slide off the battery cover on the bottom of the clock/radio.

2. Install the battery.

3. Replace the cover.

TESTING THE BATTERY

The BATTERY SENTINEL indicator lights automatically if battery power is low, or the battery is not installed.

To test the battery, press SNOOZE. If the BATTERY SENTINEL indicator lights, replace the battery.

Plug the Chronomatic 274's AC power cord into an ordinary AC outlet. The display blinks when the power is first plugged in. Then, follow these steps to operate the clock radio.

SETTING THE CLOCK

Follow these steps to set the clock.

1. Set CLOCK/TIME SET to TIME SET.

2. Press and hold HOUR until the display shows the correct hour setting.

   The PM indicator lights for PM hours.

3. Press and hold MINUTE until the display shows the correct minute setting.

4. When the display shows the correct time, set CLOCK/TIME SET to CLOCK.

PLAYING THE RADIO

Follow these steps to play the radio.

1. Set ON/OFF/AUTO/ALARM to ON.

2. Set AM/FM to the desired band.

3. Turn TUNING to the desired station.

4. Adjust VOLUME to the desired sound level.

5. Turn off the radio by setting ON/OFF/AUTO/ALARM to OFF.

Note: The AM antenna is built-in. Rotate the clock radio for best AM reception. Fully extend the AC power cord (which is the FM antenna) for best FM reception.

SETTING THE WAKE-UP TIME

You can set an alarm so that buzzer sounds or the radio plays at a specified time.

Follow these steps to set the wake-up time.

1. Set ALARM/AUTO/OFF/ON to OFF.

2. Press and hold down ALARM.

3. While holding down ALARM, press and hold down or repeatedly press HOUR until the display shows correct hour setting.

   The PM indicator lights for PM hours.

4. While holding down ALARM, press and hold down or repeatedly press MINUTE until the display shows the correct minute setting.

5. Release ALARM.

6. Set ON/OFF/AUTO/ALARM as follows.

  ALARM - The buzzer sounds at the wake-up time.

   AUTO - The radio turns on at the wake-up time.

7. Adjust VOLUME for the desired alarm loudness.

To silence the buzzer or radio, set ON/OFF/AUTO/ALARM to OFF. If you do not manually turn off the buzzer or radio, it continues to sound for approximately 1 hour and 59 minutes.

Notes: Remember to reset the alarm if you want it to go off at the set wake-up time the next day.

The alarm indicator lights on the lower left of the clock display when the buzzer or radio is set to sound.

Press ALARM to display the set wake-up time.

USING THE SNOOZE FEATURE

If you wish to silence the alarm (buzzer or radio), but want it to sound again in a few minutes, press SNOOZE. This silences the buzzer or radio for about 9 minutes. You can repeat this for up to one hour and 59 minutes. After that the buzzer or radio will not sound again until the next day at the specified wake-up time.

USING THE SLEEP TIMER

You can set the radio to play for up to 1 hour and 59 minutes and

automatically turn off.

To set the sleep timer, set ON/OFF/AUTO/ALARM to OFF, AUTO, or ALARM, then set the playing time.

Note: The sleep timer is automatically set to 59 minutes.

For a playing time of 59 minutes or less, follow these steps.

1. Press and hold SLEEP.

2. While holding down SLEEP, repeatedly press MINUTE until the display shows the desired minutes setting.

3. Release SLEEP.

For a playing time of 1 hour or more, follow these steps.

1. Press and hold SLEEP.

2. While holding down SLEEP, press HOUR. The display shows 1:59.

3. Continue to hold down SLEEP and repeatedly press MINUTE until the display shows the desired minutes setting.

4. Release SLEEP.

To turn the radio off before the programmed sleep time has elapsed, press SNOOZE.

CONNECTING AN EARPHONE

Warning: Do not listen at extremely high volume levels, especially when listening through an earphone. Extended high-volume listening can cause permanent hearing loss.

To listen, privately, plug an optional earphone into the EAR jack on the back of the clock radio. (You can use headphones, but you cannot receive a stereo signal.) You can find a complete selection of earphones and headphones at your nearest Radio Shack store.

Note: Connecting the earphones automatically disconnects the built-in speaker.

Chronomatic-274 (120-1582) Care and Maintenance Faxback Doc. # 3802

The Chronomatic-274 AM/FM LED Alarm Clock Radio is an example of superior design and craftsmanship. The following suggestions will help you care for the Chronomatic-274 so that you can enjoy it for years.

Keep the Chronomatic-274 dry. If it does get wet, wipe it dry immediately. Liquids can contain minerals that can corrode the electronic circuits.

Use and store the Chonomatic-274 only in normal temperature environments. Temperature extremes can shorten the life of electronic devices, damage batteries, and distort or melt plastic parts.

Handle the Chonomatic-274 gently and carefully. Dropping it can damage the case and circuit boards and can cause it to work improperly.

Keep the Chronomatic-274 away from dust and dirt, which can cause premature wear of parts.

Occasionally wipe the Chronomatic-274 with a dampened cloth to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the Chronomatic-274.

Use only fresh batteries of the recommended size and type. Always remove old or weak batteries. They can leak chemicals that cam destroy electronic circuits.

Modifying or tampering with the Chronomatic-274's internal parts can cause a malfunction and might invalidate your Chronomatic-274's warranty and void you FCC authorization to operate it. If your Chronomatic-274 is not operating as it should, take it to your local Radio Shack store so that our personnel can assist you and arrange for service if needed.

Chronomatic-274 (120-1582) Specifications Faxback Doc. # 3803

Bands

AM:.....530-1710 kHz
FM:.....88-108 MHz
Power:.....120V AC, 60 Hz, 8 Watts
DC 9V

Intermediate Frequency

AM:.....455 KHz
FM:.....10.7 MHz
Power Output:.....300 mW (Maximum)
Speaker:.....3 Inch (7.6 cm) Ferrite
Dynamic-Type, 8 ohms
Dimensions:.....2.6 x 6.2 x 10.2 Inches (HWD)
Weight:.....2 LB.

Testing Conditions:

Supply Voltage/Rated Voltage:.....120V 60Hz AC
Output Load:.....8 Ohm
Reference Output:.....50mW
Room Temperature:.....25 degrees C

AM BAND

Standard Modulation:.....400 Hz 30%

	UNIT	NOMINAL	LIMIT
Intermediate Frequency:	kHz	455	+/-5
Frequency Range:	kHz	510-1750	520-1720

Maximum Sensitivity to produce:

50 mW output			
at 600 kHz	microV/m	501	794
1000 kHz	microV/m	501	794
1400 kHz	microV/m	501	794

Quieting Sensitivity at S/N 20dB:

at 600 kHz	microV/m	794	1259
1000 kHz	microV/m	794	1259

1400 kHz	microV/m	794	1259
Dial Calibration:				
at 540 kHz	kHz	+/-25	+/-30
1000 kHz	kHz	+/-50	+/-70
1700 kHz	kHz	+/-50	+/-70
S/N Ratio at 5 mV/m input at 1000 kHz	dB	33	30
Image Rejection at 1400 kHz	dB	32	28
IF Rejection at 600 kHz	dB	50	40
AGC Figure of Merit (From 1000mV/m	dB	45	40
input at 1000 kHz, till output drops by 10 dB)			
ACA at Maximum Sensitivity at 1000 kHz	dB	17	15
(+/- 10 kHz)			
Bandwidth at 6 dB down,	kHz	9.5	11
at Input 1000 kHz			
Output Power Maximum/10% THD 1000 kHz	mW	350/320	320/300
Distortion at 1000 kHz	%	3	4
Overload 80% Modulation, at 100 mV/m	%	5	7
Whistle Modulation			
at 1/10/100 mV/m 2nd IF	%	8	10
Whistle Modulation			
at 1/10/100 mV/m Input 3rd IF	%	8	10
Audio Fidelity 6 dB down 5 mV/m Input			
at 1000 kHz, 400 Hz=0 dB	Hz	60-2200	200-2000
Min. Volume Hum and Noise	mV	3	5
Oscillator Drop-out Noise	V	95	100
Hum Modulation at 100 mV/m	dB	42	38

Note: The standard output level is 50mW at 8 ohm (resistive load).
Input level is 5mV/m 400 Hz 30% Modulation.

FM BAND

Signal Generator Impedance: 75 ohm

Disconnect the Telescoping Rod Antenna Cables.

The Signal Voltage in this specification or test data is the voltage appearing across the tuner input terminal.

Modulation:.....400 Hz 22.5 kHz deviation

	UNIT	NOMINAL	Limit
Intermediate Frequency	MHz	10.7	+/-0.3
Frequency Range*	MHz	87-109	+/-0.5
			+/-0.5
Quieting Sensitivity at S/N 30dB			
at 90 MHz	microV	20	35
98 MHz	microV	20	35
106 MHz	microV	20	35
Dial Calibration:			
at 88 MHz	kHz	+/-1000	+/-1200
100 MHz	KHz	+/-1000	+/-1200
108 MHz	kHz	+/-1000	+/-1200
Power 10% THD	mW	350	300
S/N Ratio 1 mV Input at 98 MHz	dB	45	40
Distortion in 50 mW Output at 98 MHz 1 mV	%	2	3
AM Suppression at 1 mV Input	dB	32	26
-3 dB Limiting Sensitivity at 98 MHz	microV	25	50
AFC Holding Range	kHz	500	700
Image Rejection at 106 MHz	dB	22	20
IF Rejection at 90 MHz	dB	60	55
Spurious Response at 2 x 98 MHz+ 1/2 IF)=206.7 MHz	dB	45	42
Capture Ratio at 98 MHz IHF Method	dB	8	10
De-emphasis at 6 kHz 400 Hz=0 dB,			
1 mV Input at 98 MHz	dB	-9	+/-3

Min. Volume Hum and Noise	mV	3	5
Tuning Shift 1 mV - 100 mV	kHz	100	150
Oscillator Drop-out Voltage	V	95	100
Hum Modulation at 1 mV	dB	36	36
ACS at 98 MHz 100 microV Input +/-400 kHz	dB	18	15

*European model must not be able to tune below 87.5 MHz.

Note: With volume control in maximum position, connect signal generator to telescopic antenna input terminal (through suitable impedance matching network).

Standard output level is 50 mW at 8 Ohm (resistive load).

CLOCK

	UNIT	NOMINAL	LIMIT
Power Failure Keeping Time	Sec	1.3	1
Alarm Sound Frequency	Hz	900	+/-10%
Current Drain			
Stand-by	microA	8	15
Battery Check	mA	10	+/-25%
Low Battery Voltage Indicator	V	8.1	+/-0.3
Current Drain			
Back-up Without Alarm	mA	5	10
Back-up With Alarm	mA	30	70
Clock Oscillator Frequency at 9 Volts	Hz	900	+/-10%
Minimum Operating Voltage			
Without Alarm	V	7.0	7.2
With Alarm	V	7.0	7.2
Alarm Sound Level at 5 cm Vertically: above Speaker			
AC Voltage	dBA	78	72
DC Voltage	dBA	76	70

Note: Nominal Specs represent the design specs. All units should be able to approximate these-some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable; in no case should a unit fail to meet limit specifications.

(LB/all-02/06/95)
LN-03/04